

### AMENDMENTS TO THE CLAIMS

Claims 1 – 41 (Cancelled).

42. **(Currently amended)** A system for monitoring a physiological parameter of a patient, the system comprising:

a physiological sensor operable to detect a physiological parameter, the physiological sensor comprising a first LED circuitry and an information element electrically connected to a common signal line, which wherein the first LED operates in response to a drive signal on a drive the common signal line, and an the information element operable to provides information data on the drive common signal line; and

a physiological monitor, which provides the drive signal to the first LED and receives the information data from the information element; and

a connector, operable to provide communication between the ~~information element~~ physiological monitor and the common signal line of the physiological sensor.

43. **(Currently amended)** The system of ~~Claim~~ Claim 42, wherein the physiological sensor further comprises a second LED circuitry is in communication with that is electrically connected in a back-to-back configuration with the first LED and electrically connected to the common the signal line.

44. **(Currently amended)** The system of ~~Claim~~ Claim 42, wherein the physiological monitor generates the drive further comprising a timing signal having a first frequency and monitors the information data at a second frequency that is different from the first frequency; wherein the LED circuitry is in communication with the signal line in response to the timing signal.

45. **(Currently amended)** The system of ~~Claim~~ Claim 42, wherein the information element provides the information data in response to a probe signal on the common signal line and the probe signal has a lower amplitude than the drive signal further comprising:

a threshold, wherein the drive signal is greater than the threshold; and

a probe signal, wherein the probe signal is less than the threshold.

46. (Currently amended) The system of ~~Claim~~ Claim 45, wherein the amplitude of the probe signal is approximately 0.5 volts or less while the amplitude of the drive signal is approximately 1.5 volts or more ~~threshold comprises a voltage~~.

47. (Currently amended) The system of ~~Claim~~ Claim 45, wherein the drive signal and the probe signal have different operating frequencies ~~comprises a voltage~~.

48. (Currently amended) The system of ~~Claim~~ Claim 45, wherein the first LED is effectively inactive in response to the probe signal ~~comprises a voltage~~.

49. (Currently amended) The system of ~~Claim~~ Claim 42, further comprising:  
a ~~processor~~, wherein the physiological monitor comprises a processor is in communication with the signal line, that receives the information data and wherein the processor provides generates the drive signal in response to the information data.

50. (Currently amended) A physiological monitor for monitoring a physiological parameter of a patient, the physiological monitor comprising:

a ~~processor~~ driver circuit operable to provide a drive signal in response to information data;

a common signal line on which the drive signal is provided and on which the information data is received; and

a connector, wherein the connector is in communication with the ~~processor~~ driver circuit and the common signal line.

51. (Currently amended) The physiological monitor of ~~Claim~~ Claim 50, wherein the drive signal ~~comprises an LED drive signal~~ activates one or more light emitting diodes electrically connected to the common signal line.

52. (Currently amended) The physiological monitor of ~~Claim~~ Claim 50, further comprising:

a timing signal, wherein the drive signal operates at a first frequency ~~comprises an LED drive signal~~, and a signal having a second frequency that is different from the first frequency communicates the LED drive signal is in communication with the signal line in response to the timing signal information data.

53. (**Currently amended**) The physiological monitor of ~~Claim~~ Claim 50, further comprising:

~~a threshold, wherein the information data is provided to the common signal line in response to a probe signal on the common signal line and the probe signal has a lower amplitude than the drive signal is greater than the threshold; and~~

~~a probe signal, wherein the probe signal is less than the threshold.~~

54. (**Currently amended**) The physiological monitor of ~~Claim~~ Claim 53, wherein the ~~probe signal has threshold~~ comprises a voltage amplitude that is less than one volt and the drive signal has a voltage amplitude that is greater than one volt.

55. (**Currently amended**) The physiological monitor of ~~Claim~~ Claim 53, wherein the drive signal ~~comprises a voltage~~ operates at a higher frequency than the probe signal.

56. (**Currently amended**) The physiological monitor of ~~Claim~~ Claim 53, wherein the probe signal ~~comprises a voltage~~ has an operating frequency that is less than 625 Hertz.

57. (**Currently amended**) A physiological sensor which provides information to a physiological monitor in addition to at least one physiological signal usable to determine a physiological parameter of a patient, the physiological sensor comprising:

a common signal line which receives at least one LED drive signal from a physiological monitor;

at least one LED electrically connected to the common signal line and operating in response to the LED drive signal; and

an information element electrically connected to the common signal line and operable in communication with the at least one LED drive signal to provide information on the common signal line to [[a]] the physiological monitor.

58. (**Currently amended**) The physiological sensor of ~~Claim~~ Claim 57, wherein ~~during a time when the signal line receives the at least one LED drive signal at a level sufficient to drive at least one LED, the information element effectively ceases to provide information to the physiological monitor~~ on the common signal line when the LED drive signal has a sufficient amplitude to activate the LED electrically connected to the common signal line.

59. (**Currently amended**) The physiological sensor of ~~Claim~~ Claim 57, wherein ~~during a time when the information element provides information to the physiological monitor~~

~~on the common, the signal line does not receive when the at least one LED drive signal at a level does not have a sufficient amplitude to drive at least one the LED electrically connected to the common signal line.~~

60. (Currently amended) The physiological sensor of ~~Claim~~ Claim 57, wherein the ~~at least one LED drive signal comprises~~ has a voltage signal amplitude that is greater than approximately 1.5 volts.

61. (Currently amended) The physiological sensor of ~~Claim~~ Claim 57, wherein the information element comprises a passive element.

62. (Currently amended) The physiological sensor of ~~Claim~~ Claim 61, wherein the passive element comprises a coding resistor.

63. (Currently amended) The physiological sensor of ~~Claim~~ Claim 62, wherein the coding resistor comprises an impedance device.

64. (Currently amended) The physiological sensor of ~~Claim~~ Claim 57, wherein the information element comprises an active element.

65. (Currently amended) The physiological sensor of ~~Claim~~ Claim 57, wherein the information element comprises an active circuit.

66. (Currently amended) The physiological sensor of ~~Claim~~ Claim 57, wherein the information element comprises a memory chip.

67. (Currently amended) The physiological sensor of ~~Claim~~ Claim 57, wherein the information element comprises an identification device.

68. (Currently amended) The physiological sensor of ~~Claim~~ Claim 57, wherein the information element comprises ~~an encrypted element~~ a transistor network.

69. (Currently amended) The physiological sensor of ~~Claim~~ Claim 57, wherein the information provided by the information element is usable to identify a type of probe.

70. (Currently amended) The physiological sensor of ~~Claim~~ Claim 69, wherein the type of probe comprises at least one of an adult probe, a pediatric probe, a neonatal probe, a disposable probe, and a reusable probe.

71. (Currently amended) The physiological sensor of ~~Claim~~ Claim 57, wherein the information provided by the information element is usable ~~to identify a type of patient~~ for a security purpose.

72. (Currently amended) The physiological sensor of Claim ~~Claim 57-71~~, wherein the ~~type of patient security purpose~~ includes an indication of a condition of the patient that the physiological sensor is from an authorized supplier.

73. (Currently amended) The physiological sensor of ~~Claim~~ Claim 57, wherein the information provided by the information element is usable to determine characteristics of the LED drive signal.

74. (Currently amended) The physiological sensor of ~~Claim~~ Claim 73, wherein the characteristics include at least one operating wavelength of at least one LED.

75. (Currently amended) The physiological sensor of ~~Claim~~ Claim 57, wherein the information element provides the information on the common signal line in response to a probe signal provided by the physiological monitor on the common signal line and the at least one LED drive signal is has a greater amplitude than a threshold, and the signal line receives a probe signal, wherein the probe signal is less than the threshold.

76. (Currently amended) The physiological sensor of ~~Claim~~ Claim 75, wherein the ~~threshold comprises~~ LED drive signal has a voltage signal amplitude of approximately 1.5 volts or more.

77. (Currently amended) The physiological sensor of ~~Claim~~ Claim 75, wherein the probe signal ~~comprises~~ has a voltage signal amplitude of approximately 0.5 volts or less.

78. (Currently amended) A method of communicating with between a physiological probe and a physiological monitor, the method comprising the steps of:

providing a drive signal from wherein said physiological monitor to said physiological probe on a common comprises a signal line, wherein on which the physiological monitor provides a drive signal has a first range of operating frequencies; and

on which the physiological monitor receives providing information data on the common signal line from an information element in the physiological probe to the physiological monitor, wherein said method comprises the step of providing an the information data is encoded in a probe element in communication with a signal line having a second frequency that is lower than the first range of operating frequencies for the drive signal.

79. **(Currently amended)** The method of ~~Claim~~ Claim 78, further comprising the step of ~~providing~~ electrically connecting LED circuitry in communication with the physiological probe to the common signal line.

80. **(Currently amended)** The method of ~~Claim~~ Claim 78, wherein said signal line is in communication with LED circuitry and said ~~further comprising the step of electrically connecting the information element in response to a timing signal, said method further comprising the step of providing the LED circuitry in communication with the physiological probe to the common signal line.~~

81. **(Currently amended)** The method of ~~Claim~~ Claim 78, wherein said drive signal comprises a signal has a greater voltage amplitude than a threshold, and said signal line further provides a probe signal, said probe signal comprising a voltage less than the threshold, said method further comprising the steps of:

~~receiving a drive signal; and~~  
~~receiving a probe signal.~~

82. **(Currently amended)** The method of ~~Claim~~ Claim 78, wherein said physiological monitor further comprises a processor in communication with said common signal line, said processor providing said drive signal in response to said information data, ~~said method further comprising the step of receiving a drive signal.~~